

## PATENT COOPERATION TREATY

REC'D 01 JUN 2005

From the  
INTERNATIONAL SEARCHING AUTHORITY

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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

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28/4

Date of mailing  
(day/month/year)

27 -05- 2005

Applicant's or agent's file reference

80601f

## FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/FI2005/000038

International filing date (day/month/year)

19-01-2005

Priority date (day/month/year)

19-01-2004

International Patent Classification (IPC) or both national classification and IPC

A61B 5/04, G01R 33/02, G01R 19/00

Applicant

ELEKTRA NEUROMAG OY et al

## 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

## 3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/FI2005/000038

**Box No. I**      **Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language, \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II    Priority

1. ☒ The following document has not yet been furnished:

☒ copy of the earlier application whose priority has been claimed (Rules 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rules 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The question whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application
- ☒ claims Nos. 1-10 (in part)

because:

- ☐ the said international application, or the said claims Nos. \_\_\_\_\_  
relate to the following subject matter which does not require an international preliminary examination (*specify*):

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. \_\_\_\_\_  
are so unclear that no meaningful opinion could be formed (*specify*):

- ☐ The claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported  
by the description that no meaningful opinion could be formed.

- ☒ no international search report has been established for said claims Nos. 1-10 (in part)

- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of  
the Administrative Instructions in that:

- |                            |  |
|----------------------------|--|
| the written form           | <input type="checkbox"/> has not been furnished            |
|                            | <input type="checkbox"/> does not comply with the standard |
| the computer readable form | <input type="checkbox"/> has not been furnished            |
|                            | <input type="checkbox"/> does not comply with the standard |

- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not  
comply with the technical requirements provided for in the Annex C-bis of the Administrative Instructions.

- ☐ See Supplemental Box for further details.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations:

Reference is made to the following documents:

D1:US5408178

D2:US2002/0151779

D3:US4793355

D4:EP0483698

D1 discloses a method for measurement of magnetic fields in an object. The document teaches that the orientation of the object is varied (column 2, column 11, lines 63-65). The magnetic field is induced by external coils. However, methods of detection and the location of magnetic fields from a current source in a living brain are disclosed.

D2 describes a method of measurement of magnetic fields from a brain. To improve the sensitivity a procedure of voluntary eye movements is described (paragraph [0046]).

D3 discloses the measurement and the location of magnetic fields produced by a body. From the movement of the body, the location of the field is determined in the sense of the body coordinates.

D4 disclose a method to locate the currents in a brain independent of the position and orientation of the magnetometers with respect to the head (column 1, lines 38-45).

The concept of the invention concerns a method of measurement of magnetic signals emanating from DC-currents in an object by moving the object. Furthermore, claim 1 states that the signals are located with respect to the coordinate of the body.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

Document D1 is considered to represent the closest prior art to the concept and the idea of the application.

The invention according to claim 1 differs from the method in D1 in that the signals have their source in the object while in D1 external coils are generating the magnetic fields in the object. However, the technical field of measurement is the same, the concept of moving the object is the same and presentation of the result in the coordinate of the object is the same. Accordingly, the difference in the source of the field is considered as a detail and no additional problem arises. Consequently, the invention according to the concept of claim 1 lacks inventive step. Also in view of the other cited documents, the concept of presenting the signals in the coordinate of the object lacks inventive step since it is considered as general common knowledge to transform the result from one coordinate-system (the sensor head) to an other (the object).

The inventions according to claims 2-7 and 9-10 are disclosed in the cited documents or are considered obvious to a person skilled in the art. Accordingly, the inventions according to claims 2-7 and 9-10 do not fulfil the requirement of inventive step.

As to the invention stated in claim 8 of intentionally moving the head, it is known from the prior art to move the object in relation to the detector solving the problem of separating DC-fields from other fields. D1 discloses the varying of the object orientation and D2 teaches that a voluntary movement of at least a part of the object, the eyes, will improve the detection of the magnetic field. The problem solved by the invention is a way of separating components of the fields. Since D1 and D2 disclose the same technical field, it is considered obvious to a person skilled in the art to combine the information in the documents and arrive at the invention claimed. Accordingly, the invention claimed in claim 8 does not fulfil the requirement of inventive step.

The invention is industrially applicable.